

## Patent Abstracts of Japan

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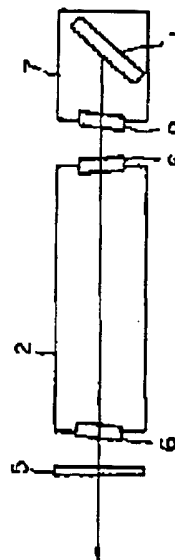
APPLICATION DATE : 19-07-90  
APPLICATION NUMBER : 02191336

APPLICANT : KOMATSU LTD;

INVENTOR : KOBAYASHI YUKIO;

INT.CL. : H01S 3/1055 H01S 3/08 H01S 3/106

TITLE : NARROW-BAND OSCILLATION LASER  
DEVICE



**ABSTRACT :** **PURPOSE:** To prevent the beam profile of a laser from being fluctuated and to enhance the stability of a pulse by a method wherein a grating is installed inside an airtight chamber.

**CONSTITUTION:** The refractive index of a gas can be adjusted by changing the pressure of the gas or the composition of the gas inside an airtight chamber 7. Consequently, when the wavelength of a laser beam is fixed to a wavelength corresponding to the blaze angle of a grating 1, the grating 1 can be used at maximum efficiency and a narrow band can be achieved efficiently. As the grating 1, an echelle grating is optimum. At the grating, the vertical angle of grooves is nearly vertical and the grating having a large blaze angle can be manufactured. Its efficiency and its resolving power are high. Since a free spectral range is small, it is possible to easily adjust the laser wavelength inside the airtight chamber to a wavelength corresponding to the blaze angle.

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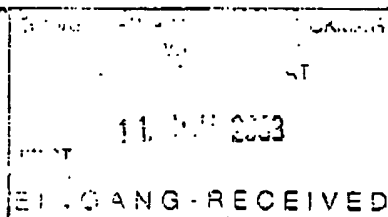
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Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

00980783.5-2214-US0032295

Anmelder/Applicant/Demandeur/Patent/Inhaber/Proprietor/Titulaire

Cymer, Inc.

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent  
Office

# SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application Number  
EP 00 98 0783

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IntCl.7)
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 291 (E-1224), 26 June 1992 (1992-06-26) & JP 04 076976 A (KOMATSU LTD), 11 March 1992 (1992-03-11) * abstract; figures 1,3-7 *	1	H01S3/22
			TECHNICAL FIELDS SEARCHED (IntCl.7)
			H01S
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search		Date of completion of the search	Examiner
THE HAGUE		3 July 2003	Galanti, M
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.****EP 00 98 0783**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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03-07-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
JP 04076976	A	11-03-1992	JP	2689012 B2	10-12-1997

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